

AMENDMENTS TO THE CLAIMS:

Claims 1-20 (cancelled)

Claim 21 (new): An isolated nucleotide sequence encoding a protein having hydroxynitrile lyase activity, wherein the nucleotide sequence is selected from the group consisting of:

- (1) a nucleotide sequence having the nucleic acid sequence of SEQ ID NO: 19;
- (2) a nucleotide sequence encoding a protein having the amino acid sequence of SEQ ID NO: 20;
- (3) a nucleotide sequence having at least 85 % identity with the nucleic acid sequence of SEQ ID NO: 19 and encoding a protein having hydroxynitrile lyase;
- (4) a nucleotide sequence having the nucleic acid sequence from nucleotide 13 to nucleotide 2151 of SEQ ID NO: 19 and encoding a protein having hydroxynitrile lyase; and
- (5) a nucleotide sequence having the nucleic acid sequence of SEQ ID NO: 19 without the intron regions of nucleotides 116 to nucleotide 257, nucleotide 918 to nucleotide 1120, or nucleotide 1962 to nucleotide 2077 and encoding a protein having hydroxynitrile lyase.

Claim 22 (new): A vector comprising the nucleotide sequence of claim 21.

Claim 23 (new): A host cell comprising the vector of claim 22.

Claim 24 (new): The host cell of claim 23, wherein the host cell is a microorganism cell.

Claim 25 (new): The host cell of claim 23, wherein the host cell is *Saccharomyces cerevisiae* or *Pichia pastoris*.

Claim 26 (new): An isolated protein having hydroxynitrile lyase activity encoded by the nucleotide sequence of claim 21.

Claim 27 (new): An isolated protein having hydroxynitrile lyase activity comprising the amino acid sequence of SEQ ID NO: 20.

Claim 28 (new): A recombinant protein comprising the amino acid sequence of SEQ ID NO: 20.

Claim 29 (new): A recombinant protein, which is obtained by heterologous expression of the vector of claim 22.

Claim 30 (new): The recombinant protein of claim 29, which comprises host-specific glycosylation.

Claim 31 (new): The recombinant protein of claim 29, wherein the protein is prepared by expression in an eukaryotic microorganism.

Claim 32 (new): The recombinant protein of claim 29, wherein said protein is prepared by expression in a fungus.

Claim 33 (new): The recombinant protein of claim 29, which either has been truncated at the C-terminal end or in which the sequences in the N- and C-terminal region have been replaced by those of a related protein with different functions.

Claim 34 (new): An isolated nucleotide sequence encoding a fusion protein, wherein the nucleotide sequence is selected from the group consisting of:

- (1) a nucleotide sequence having the nucleic acid sequence of SEQ ID NO: 21 having the N- and C-terminal nucleotide sequences of the *Aspergillus niger* glucose oxidase gene; and
- (2) a nucleotide sequence encoding a fusion protein having the amino acid sequence of SEQ ID NO: 22.

Claim 35 (new): An isolated fusion protein having hydroxynitrile lyase activity, which is encoded by the nucleotide sequence of claim 34.

Claim 36 (new): A method for producing a protein having hydroxynitrile lyase activity comprising:

culturing the host cell of claim 23,
isolating the expressed protein having hydroxynitrile lyase activity from the cells, and
purifying the expressed protein having hydroxynitrile lyase activity.

Claim 37 (new): A method for producing (R)- or (S)-cyanohydrins comprising contacting a protein having hydroxynitrile lyase activity which has the amino acid sequence of SEQ ID NO: 20 with aliphatic, aromatic or heteroaromatic aldehydes and ketones in an organic, aqueous or 2-phase system or in emulsion in the presence of a cyanide group donor.

Claim 38 (new): A method for producing (R)- or (S)-cyanohydrins comprising contacting a protein having hydroxynitrile lyase activity of claim 26 with aliphatic, aromatic or heteroaromatic aldehydes and ketones in an organic, aqueous or 2-phase system or in emulsion in the presence of a cyanide group donor.